

No. 83-704

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IN THE

**Supreme Court of the United States**

ROBERT L. STEVENS,  
CLERK

OCTOBER TERM, 1983

FRANKLIN COMPUTER CORPORATION,  
*Petitioner,*  
vs.

APPLE COMPUTER, INC.,  
*Respondent.*

**BRIEF FOR RESPONDENT IN OPPOSITION TO  
PETITION FOR A WRIT OF CERTIORARI  
TO THE UNITED STATES COURT  
OF APPEALS FOR THE THIRD CIRCUIT**

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## Restatement of Questions Presented

Petitioner's (Franklin's) statement of the questions presented incorporates factual assertions contrary to the facts of record (as explained in the restatement of the case, *infra*). Properly stated, the sole issue presented is whether this Court should review the unanimous decision of the United States Court of Appeals for the Third Circuit when that decision:

(1) is in accord with every other apposite decision (save only the district court decision which the Third Circuit reversed) which has ruled on the copyrightability of computer programs like those here in issue (referred to as "operating system programs") under the Software Copyright Act of 1980, amending the Copyright Act of 1976;

(2) is in accord with the well-established rule in the other circuits awarding preliminary injunctive relief in copyright cases upon a *prima facie* showing of infringement of a valid copyright, without further proof of irreparable injury, and, furthermore, also based its reversal on a showing of actual irreparable harm resulting from Franklin's blatant, wholesale copying in this case; and

(3) remanded the case to the district court to consider certain defenses, and to consider the appropriateness of adjudicating certain other defenses, asserted by Franklin but not yet ruled upon by either court.

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**BRIEF FOR RESPONDENT IN OPPOSITION TO  
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Respondent Apple Computer, Inc. respectfully prays that this Court deny the petition for a writ of certiorari to review the decision of the United States Court of Appeals for the Third Circuit (reported at 714 F.2d 1240), entered August 30, 1983.

## Restatement of the Case

First, Franklin's statement of the case is misleading in its postulation of a purported "undisputed distinction" [Petition ("Pet.") at 3] between operating system programs and application programs. In all ways relevant to copyrightability, those computer programs classified as operating system programs cannot fairly be distinguished from those classified as application programs.

Operating system programs, the same as application programs, are: (i) writings which exist apart from the computer, reflecting the highly creative endeavors of skilled programmers (usually writing, for the sake of convenience, in a source code alphanumeric high level or assembly language); (ii) translatable to many other languages and eventually translated into object code; (iii) encoded on or in one or more storage media (e.g., tape or disk) from which they may be easily converted to other media (e.g., semiconductor memory devices ("chips")) and copied; and (iv) eventually transformed into a sequence of electrical signals that instruct a computer so as to produce a desired result. [CR 45, Exs. P-1, P-4] Operating system programs are merely "common programs" used by many users, assisting them in the writing and efficient use of application programs; indeed, they have been described as "special types of applications programs."<sup>1</sup> In performing a data processing task, selected

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<sup>1</sup> See, e.g., P. Calingaert, *Operating System Elements* 2 (1982) ("Although the requirements of the various users differ, they typically have common elements, which can be met by providing common programs to facilitate the preparation and use of application programs. These common programs, intended for all the users who share the computer hardware, are called *system programs*") (emphasis in original); L. Frenzel, *Getting Acquainted with Microcomputers* 114 (1978) ("There are many different types of programs associated with systems software. All of these programs are designed to assist the programmer in writing and developing his applications programs." "You might say that systems programs are special types of applications programs").

operating system programs work together with an application program, forming a combined set of instructions. [CR 47 at 411-12]

Thus, it is only by linguistic sleight-of-hand, and a misleading use of jargon (highlighted by elimination of the word "programs" when referring to "operating system programs" and by defining the terms "computer programs" and "software" as referring only to application programs, excluding operating system programs), that the petition avoids the central fact that there is not any meaningful distinction that can be sustained between programs referred to as operating system programs and other kinds of programs. [See 714 F.2d at 1242-45, 1251 (and the authorities cited therein)]<sup>2</sup>

Nor is the petition correct in attempting (at 6) to differentiate operating system programs as "purely functional and utilitarian" or, in statutory terms [see 17 U.S.C. § 102(b)], as "processes," "systems" or "methods of operation." Operating system programs, the same as application programs, may be — and the works in suit clearly are — original works "expressed in words, numbers or other verbal or numerical signals or indicia" and "used directly or indirectly in a computer in order to bring about a certain

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<sup>2</sup> Appendix "A" is a glossary of pertinent terms presented for the Court's convenient reference.

Appendix "B" reproduces excerpts from each of the fourteen programs which are the subject of this suit (sometimes referred to as "the works in suit"). Three of the programs (Copy, Copy A and Hello [Exs. P-9A, P-10A, P-15A]) were registered as written in source code and eleven were registered in object code. One of the programs registered in object code (Applesoft [Ex. P-6A]) also was registered in source code [CR 47 at 370-71]. Another of the programs registered in object code (Autostart ROM [Ex. P-5A]) also was published in source code as part of a copyrighted book, the *Apple II Manual* [CR 46 at 249, 296].

result," precisely within the statutory definitions of "literary works" and "computer programs" in 17 U.S.C. § 101.<sup>3</sup>

All of the apposite cases have accordingly granted copyright protection to computer programs as "literary works" without regard to the purported distinction contended for by Franklin.<sup>4</sup> Indeed, just such a purported dis-

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<sup>3</sup> See Keplinger, *Computer Software — Its Nature and Its Protection*, 30 Emory L.J. 483, 485 (1981) (footnote omitted):

"A computer program is not an abstraction or an idealized abstract machine; rather, it is a writing which explains in intricate detail the procedure for carrying out a process, idea, or algorithm. Furthermore, a computer program is not a process; it is a work which bears a relationship to the process upon which it is based, analogous to the relationship between a book and its storyline."

The court of appeals' rejection of the "testimony" proffered by Franklin in the form of legal conclusions using statutory terms is found in 714 F.2d at 1250 n.8. *Accord Apple Computer, Inc. v. Formula International, Inc.*, 562 F. Supp. 775, 780 (C.D. Cal. 1983), *appeal pending*.

<sup>4</sup> *Apple v. Formula*, 562 F. Supp. at 780, 781 (granting preliminary injunction to protect operating system programs identical to five of the works in suit: "There is nothing in any of the statutory terms which suggest a different result for different types of computer programs based upon the function they serve within the machine." "It is crystal-clear that CONTU recommended that *all* computer programs, fixed in any method and performing any function, be included within copyright protection. There likewise can be no doubt but that Congress accepted that recommendation and embodied it in the 1980 amendments to the Copyright law" (emphasis in original)); *Midway Mfg. Co. v. Strohon*, 564 F. Supp. 741, 751-52 (N.D. Ill. 1983) (preliminary injunction granted protecting operating system programs that direct the sequence of a computer's operations); *Hubco Data Products Corp. v. Management Assistance Inc.*, 2 Copyright L. Rep. (CCH) (Copyright L. Dec.) ¶ 25,529, at 18,105 (D. Idaho Feb. 3, 1983) (rejecting argument that an operating system program "cannot be copyrightable because it is a machine process" and granting preliminary injunction to protect operating system program that determines the computer's memory capacity and the amount of peripheral hardware that can be used with the computer); *GCA Corp. v. Chance*, 217 U.S.P.Q. (BNA) 718, 720 (N.D. Cal. Sept. 1, 1982) (preliminary injunction granted protecting "operating programs"); *Tandy Corp. v. Personal Micro Computers, Inc.*, 524 F. Supp. 171, 173 (N.D. Cal.

tion was expressly considered and rejected by the majority of the National Commission on New Technological Uses of Copyrighted Works (CONTU) [CONTU Final Report 1, 21 (1979)] whose recommendations were adopted by Congress [see 714 F.2d at 1252]. *See also* CONTU Final Report 21 ("Programs should no more be considered machine parts than videotapes should be considered parts of projectors or phonorecords parts of sound reproduction equipment. . . . That the words of a program are used ultimately in the implementation of a process should in no way affect their copyrightability").

Second, Franklin's statement of the case erroneously suggests (at 5) that copying of Apple's programs was the only way in which Franklin could compete with Apple. That suggestion ignores the fact that others have created operating system programs to run with Apple (and also Franklin) computers without copying Apple's programs. Indeed, the copyrighted operating system programs known as CP/M, written and owned by Digital Research Inc., which can be used with both Apple and Franklin computers and for which thousands of application programs have been written, are regarded by some as the "de facto standard in personal computers." [CR 46, Exs. P-18 at 69-70, P-21 at 5-6; inCider, Mar. 1983, at 25, Tr. of Oral Argument, Mar. 17, 1983, at 30; Business Week, Mar. 8, 1982, at 80]

The suggestion in the petition (at 4-6) that Franklin copied Apple's programs to achieve "compatibility" with "all of the application programs" which have been written by users for use with Apple's computers — apart from the lack of merit in the petition's underlying argument [see Argument pt. I, *infra*] — is equally misleading. Contrary to the suggestion (at 5) that Franklin "studied whether it would be possible to redesign the works in suit" to achieve

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1981) (protecting an operating system "computer program which tells the computer how to take the information which is put into the computer by an operator in one computer language and translate that information into a more simplified 'machine' language which the computer can understand" — "obvious[ly] . . . crucial to the operation of the computer").

"compatibility," the record establishes that Franklin did not even try to write its own programs (with one possible exception as to which it succeeded) until after this suit had been brought [CR 46 at 288-89, 293-94] and did not undertake its so-called "study" (which addressed only *one* work in suit) until *after* it began copying [CR 46 at 300 & Ex. P-21 at 21-25]. Moreover, although Franklin admittedly copied *all* the works in suit, Franklin's vice-president admitted that it was "not true" that "all" such works had to be copied to achieve compatibility [CR 46 at 299]. Additionally, although Franklin copied the works in suit in their entirety virtually line-for-line [CR 45, Exs. P-1, P-4; CR 46 at 286-89, 291, 297-98 & Ex. P-21 at 33, 40; CR 47 at 311-12, 376-78], it is not disputed that only very small portions of any of Apple's programs have any bearing on achieving compatibility [CR 46, Ex. P-19 at 93-97]. In all, it was shown that ninety-eight percent of all of the application programs written for use with the works in suit could run without modification with operating system software written, without copying, from scratch [CR 45 at 44; CR 47 at 423-24] — which is as much compatibility as Apple has been able to achieve for its own operating system programs [CR 45 at 44-45; CR 47 at 424-26].<sup>5</sup>

Third, Franklin's statement of the case describes (at 3, 7) the decision of the court of appeals as a "far-reaching" one which received "extraordinary" attention in the press because of "its significance to the computer industry." But the decision was considered significant and was widely reported only because it reversed the aberrational decision of the district court, reassuring the industry that it would not be deprived of the legal protection it required to survive. In essence, the articles reported the "relief [which] swept

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<sup>5</sup> Franklin's chairman conceded that achieving one hundred percent compatibility could not be guaranteed in any event due to hardware (as opposed to software) or other differences between the Franklin ACE 100 and the Apple II. [CR 46, Ex. P-20 at 10-12]

through the industry" when the decision of the court of appeals was announced.<sup>6</sup>

## **Reasons for Denying the Petition**

### **Summary of Argument**

The petition advances (at 8-9) several reasons for issuing the writ. None can withstand scrutiny:

1. The petition's assertion (at 8) that the case "involves the most important legal issues in the field of computer technology" and "is a case of first impression" is misleading. The only remarkable thing about this case was the district court's decision which, in denying Apple's motion for a preliminary injunction to prevent Franklin's "admitted copying" of Apple's copyrighted computer programs [714 F.2d at 1245], created a categorical exemption from the Copyright Act of 1976 and the Software Copyright Act of 1980 for computer programs referred to as "operating system programs." That decision confounded a clear congressional mandate, was irreconcilable with the five (and only) other cases treating with copyrightability of operating system programs and jeopardized the industry which depends on copyright for protection against software piracy. The Third Circuit properly reversed and remanded the case for further proceedings, including consideration of the various defenses asserted but not ruled upon by either court. There is no need or warrant for intervention by this Court in the orderly consideration and disposition of this case in the lower courts.

2. The court of appeals' decision, consistent with the

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<sup>6</sup> N.Y. Times, Oct. 23, 1983, § 3, at 8, also there explaining that "[t]here is a tremendous amount of piracy going on, . . . 'so it was important to the industry that Apple win.'"

A copy of this article (cited by the petition (at 3 n.1)) is reproduced in Appendix "C."



other well-reasoned decisions in point, correctly interpreted and applied the copyright law to permit protection of Apple computer programs, and gave proper recognition to *Baker v. Selden* and its related doctrines (without remotely raising any constitutional question).

3. The court of appeals' decision, in accordance with the decisions rendered in at least nine other circuits (none being to the contrary), properly recognized the appropriateness of a presumption of irreparable harm in copyright cases upon prima facie proof of infringement of a valid copyright and, in any event, also correctly found irreparable harm to be proven in this case.

### Argument

#### **I. THE DECISION OF THE COURT OF APPEALS ALLOWING COPYRIGHT PROTECTION FOR APPLE'S COMPUTER PROGRAMS IN ACCORDANCE WITH THE CONGRESSIONAL MANDATE AND THE APPOSITE DECISIONAL LAW DOES NOT CREATE ANY "CONFUSION" OR OTHERWISE PROVIDE ANY OCCASION FOR REVIEW BY THIS COURT.**

Petitioner's conception of the "implications" of the decision of the court of appeals [Pet. at 10-12] is far from the mark.

First, the notion that "essential and lucrative elements of high technology will be converted into computer electronic circuitry . . . in order to achieve a longer and broader monopoly through the easier route of copyright [rather than patents]" [Pet. at 10] miscomprehends the nature of copyright protection. The only "monopoly" granted by the copyright law is on the copyright holder's "original work of authorship" and all that the law prevents is copying. "All that copyright protection for programs, videotapes, and phonorecords means is that users may not take the works of others to operate their machines. In each instance, one



is always free to make the machine do the same thing as it would if it had the copyrighted work placed in it, but only by one's own creative effort rather than by piracy." CONTU Final Report 21.<sup>7</sup>

Franklin's contention (at 11) that acknowledging copyright protection for Apple's computer programs will discourage "competition in computer manufacturing" is particularly inverted. As noted above, the record does not support the contention that Franklin or any other manufacturer needs to copy Apple's programs to be able to compete in the marketplace. And, even if it did, that would hardly present a sound argument for negating the congressional grant of copyright. Cf. *SK&F, Co. v. Premo Pharmaceutical Laboratories, Inc.*, 625 F.2d 1055, 1067 (3d Cir. 1980) (although one may be able to "compete more effectively" through misappropriation, that would be no grounds

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<sup>7</sup> The implicit suggestion in the petition that Apple should be relegated to seeking patent protection rather than copyright protection for its computer programs must fail on several counts.

First, as noted by the court of appeals [714 F.2d at 1251]: "Apple does not seek to copyright the method which instructs the computer to perform its operating functions but only the instructions themselves. The method would be protected, if at all, by the patent law, an issue as yet unresolved. See *Diamond v. Diehr*, 450 U.S. 175 . . . (1981)."

Second, that suggestion runs counter to the conclusion of the CONTU majority that patent protection "may inhibit the dissemination of information and restrict competition to a greater extent than copyright" and the explicit majority recommendation that "copyright protection not be withdrawn from programs." CONTU Final Report 16. Franklin's suggestion also, of course, is explicitly or implicitly rejected by all of the cases granting copyright protection to computer programs like those of Apple.

Third, it has been well noted that copyright (and *not* patent) provides the only appropriate protection for computer programs because of the lengthy period required for processing of a patent application and the need for immediate protection of computer programs against copying from the time of first distribution. Note, *Copyright Protection of Computer Program Object Code*, 96 Harv. L. Rev. 1723, 1742 (1983).

for denying a preliminary injunction since such "kinds of business activity, while promoting competition in the short run, are in the long run apt to be destructive of competition"); see also Note, *Copyright Protection of Computer Program Object Code*, 96 Harv. L. Rev. 1723, 1737 n.90 (1983) (a copyright on an operating system program "does not monopolize the internal processes or control functions of a computer; it grants rights only in one particular programmer's expression of how to implement those internal processes").

The petition's companion argument (at 11) that "copyrighting of operating systems will foster the 'balkanization' of software application programs" is similarly lacking support in the record. As noted above, the record indicates that Franklin could have written its own operating system programs, without copying, from scratch, but instead chose to engage in wholesale copying without even attempting to write its own programs [CR 46 at 288-89, 293-94, 300]. Moreover, even if that were not the case, it would be an illogical and untoward rejection of both copyright law and policy to order the forfeit of a copyright on a computer program merely because a number of independent parties wrote other programs to run with the copyrighted program and Franklin therefore desired to take over the copyrighted program for itself. Contrary to the thrust of Franklin's argument, it is such a ruling that would be a setback to technological progress, discouraging the continued writing of creative computer programs.<sup>8</sup>

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<sup>8</sup> See, e.g., amicus curiae briefs [714 F.2d at 1242 n.1] of Microsoft Corporation at 3, 7 (the district court's decision, "if upheld, might well have the effect of crippling . . . the development of computer software"; "[t]he basic form of protection of creative endeavor in computer software relied on by the industry today is copyright"), Association of Data Processing Service Organizations, Inc. at 3 ("[i]f permitted to stand," the district court decision "would effectively leave many program authors without any adequate means of protection" which could "have a substantial adverse impact upon the computer services industry") and Digital Research Inc. at 3 ("[i]f the lower court opinion were to be the law

Finally, there is no basis for the petition's suggestion (at 12) that there is any "present confusion" which needs to be dispelled. To the contrary, the cases are unanimous in disposing of petitioner's arguments in accordance with an extraordinarily clear and enlightened congressional mandate. See *Midway v. Strohon*; *Hubco*; *Apple v. Formula*; *Tandy*; and *GCA*.

## II. THE PLAIN LANGUAGE OF THE COPYRIGHT LAWS, THE PERTINENT LEGISLATIVE HISTORY AND THE APPPOSITE DECISIONAL LAW ALL SUPPORT THE DECISION OF THE COURT OF APPEALS.

### A. The Statute

The petition contends (at 21) that the court of appeals erred in giving "substantive effect" to the Software Copyright Act of 1980 and in "failing to recognize the predominance of section 102(b)'s limitation on copyrightability." That argument, however, ignores the legislative history of the Act which reflects an entire series of CONTU recommendations that were "accepted by Congress" [714 F.2d at 1252] making it explicit that "computer software" is a proper subject of copyright. See H.R. Rep. No. 1307, 96th Cong., 2d Sess. 23, *reprinted in* 1980 U.S. Code Cong. & Ad. News 6460, 6482.<sup>9</sup>

As has been well noted, in defining a "computer program" as "a set of statements or instructions to be used directly or indirectly in a computer in order to bring about

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of this country, it would effectively destroy the entire industry overnight because there would be no incentive for . . . software developers to devote time and money to creating new software").

<sup>9</sup> It was "unnecessary" to make any amendment to the 1976 Act supplementing the added definition because, it was reasoned, computer programs already qualified as "literary works" under section 102(a) of that Act. CONTU Final Report 16; *accord* H.R. Rep. No. 1476, 94th Cong., 2d Sess. 54, *reprinted in* 1976 U.S. Code Cong. & Ad. News 5659, 5667 ("computer programs" are "literary works").

a certain result" [17 U.S.C. § 101], although informed of the choice, Congress made no distinction (based on the functions performed by a program, on the use to which a program may be put or on any other basis) between operating system programs and application programs. [714 F.2d at 1252; CONTU Final Report 21; *Apple v. Formula*, 562 F. Supp. at 780; see also *Midway v. Strohon*, 564 F. Supp. at 750-52; *Hubco*, 2 Copyright L. Rep. (CCH) ¶ 25,529, at 18,103-05; *Tandy*, 524 F. Supp. at 173; *GCA*, 217 U.S.P.Q. (BNA) at 719-20] Congress unequivocally chose to afford copyright protection to computer programs of every kind — just as it protects other writings of every kind — provided they are, like the works in suit, "original works of authorship fixed in any tangible medium of expression." 17 U.S.C. § 102(a).<sup>10</sup>

### **B. *Baker v. Selden***

The petition asserts (at 12-14) that, while the "court of appeals acknowledged that a 'literal construction' of *Baker* supported Franklin's position that 'purely utilitarian works' cannot be copyrighted," its opinion "disagreed with *Baker*" by refusing to "'accept the expansive reading (of *Baker*) given . . . by some courts'" and thereby "undermines" *Baker v. Selden*, 101 U.S. 99 (1880). That assertion mischaracterizes both what the Third Circuit actually said and the *Baker* holding.

First, the Third Circuit observed only that "a literal construction of ["*dictum* in *Baker v. Selden*"] could support

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<sup>10</sup> An "original work of authorship" is merely that which "[o]wes its origin to the author," i.e., is independently created, and not copied from other works. CONTU Final Report 18 (citations omitted); accord *Best Medium Publishing Co. v. National Insider, Inc.*, 385 F.2d 384, 386 (7th Cir. 1967), cert. denied, 390 U.S. 955 (1968). There is no dispute that Apple's works in suit were not copied from anyone else's works. [CR 45, Ex. P-4, para. 12] The petition also does not dispute [see p. 7 n.4] that the works in suit, which appear as writings on paper, diskettes or ROMs [CR 45, Exs. P-5A to P-17A; Appendix "B"], are properly "fixed" in "tangible medi[a] of expression."

Franklin's reading[.]” [714 F.2d at 1252, 1251 (emphasis supplied)]

Second, in any event, the *Baker* dictum would merely allow reproduction of “methods and diagrams used to illustrate [a] book” “on science or the useful arts” where reproduction thereof is “necessary” to “use[.]” what the book “teaches.” *Baker*, 101 U.S. at 103. Clearly, the works in suit are not such “diagrams” in a “science” “book” and the Third Circuit thus did not jeopardize *Baker*’s “continued vitality” [Pet. at 12] or override any “constitutional doctrine[.]” [*id.* at 13] in declining to apply that inapposite dictum.

The *Baker* case and later cases based on the *Baker* decision support only the irrelevant conclusion that blank, uncompleted forms or charts are not copyrightable.<sup>11</sup> They do not conflict with the corollary rule that, “if any information is contained in those blanks, copyright protection is available.” *Sid & Marty Krofft Television Productions, Inc. v. McDonald’s Corp.*, 562 F.2d 1157, 1168 (9th Cir. 1977); accord *Edwin K. Williams & Co. v. Edwin K. Williams & Co.-East*, 542 F.2d 1053, 1060-61 (9th Cir. 1976), *cert. denied*, 433 U.S. 908 (1977). While a blank computer memory storage device (e.g., a blank ROM or diskette [see Appendix “A”], as to which Apple did not seek and the Third Circuit did not afford copyright protection) might be considered the analog of a blank form or chart (or a blank piece of paper), the computer program embodied or written thereon may

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<sup>11</sup> *Baker*, 101 U.S. at 100 (“forms or blanks, consisting of ruled lines and headings, illustrating [an accounting] system and showing how it is to be used and carried out in practice” noncopyrightable); *Brown Instrument Co. v. Warner*, 161 F.2d 910, 910 (D.C. Cir.) (“blank graph paper ruled according to . . . mechanical characteristics” noncopyrightable), *cert. denied*, 332 U.S. 801 (1947); *Taylor Instrument Cos. v. Fawley-Brost Co.*, 139 F.2d 98 (7th Cir. 1943) (blank circular charts for use with a temperature recording machine noncopyrightable), *cert. denied*, 321 U.S. 785 (1944).

not be. Instead, the works in suit constitute copyrightable "information." [See Appendix "B"]<sup>12</sup>

Third, the "'expansive reading (of *Baker*) given . . . by some courts'" [714 F.2d at 1251 (citing *Taylor Instrument Cos. v. Fawley-Brost Co.*, 139 F.2d 98, 100 (7th Cir. 1943), *cert. denied*, 321 U.S. 785 (1944))] referred to in the Third Circuit opinion is that a necessary predicate of copyrightability is that the work must "teach or convey information." That reading of *Baker* was properly "not accepted" by the court of appeals to deny copyrightability to the works in suit because: (i) even before adoption of the 1976 Act, it was held that all "communication" means for purposes of copyright law is that someone can tell what the work is [see *Harcourt, Brace & World, Inc. v. Graphic Controls Corp.*, 329 F. Supp. 517, 523 (S.D.N.Y. 1971) (answer sheets "convey information" since "they inform a reader that they are designed to be the page upon which one records responses to an examination in a certain way")]; (ii) CONTU rejected that position [CONTU Final Report 21 (copyrightability should not depend on whether or not the program produces any perceptible output)]; and (iii) in any event, operating system programs such as the works in suit (as set forth in Appendix "B") in fact do "convey information" and "communicate with humans" since computers cannot and "do not

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<sup>12</sup> Merely because these programs are expressed in 0's and 1's or hexadecimal code that has no meaning except to programmers does not detract from their copyrightability. See 17 U.S.C. § 101 (embracing "works . . . expressed in words, numbers or other verbal or numerical symbols or indicia"). Indeed, the courts have long protected as copyrightable expression codes that are incomprehensible to those unfamiliar with them, and even codes designed to have no meaning at all. *Reiss v. National Quotation Bureau, Inc.*, 276 F. 717, 718, 719 (S.D.N.Y. 1921) (L. Hand, J.) (plaintiff's cable code, comprised of "6,325 coined words of 5 letters each, numbered consecutively from 38,495 to 44,819" which "had no meaning," held copyrightable: "I can see no reason why words should not be [protectible literary works] because they communicate nothing"); accord *Hartfield v. Peterson*, 91 F.2d 998 (2d Cir. 1937) (A. Hand, J.) (cipher code copyrightable).

understand" or use them, while "humans [can and do]" [Brooks, "Interrelationship of Copyright and Trade Secret," *Software Protection: Current Developments in Copyright and Patent and Their Relationship to Trade Secret* 309, 318-19 (1982)].

Finally, the petition (at 13) also mischaracterizes *Baker* as purportedly rendering "purely utilitarian works" noncopyrightable. Whatever *Baker* stood for when decided, "purely utilitarian works" (e.g., phonorecords, videotapes and film) now have been declared copyrightable by statute [17 U.S.C. § 102(a)]. See also H.R. Rep. No. 1476, 94th Cong., 2d Sess. 52, reprinted in 1976 U.S. Code Cong. & Ad. News 5659, 5665 (the 1976 Copyright Act "is intended to avoid the artificial and largely unjustifiable distinctions, derived from cases such as *White-Smith* [(musical composition fixed in piano roll not copyrightable)] under which statutory copyrightability in certain cases has been made to depend upon the form or medium in which the work is fixed" (footnote omitted)).<sup>13</sup>

### C. The "Merger Doctrine"

The "expression" of any computer program is the particular written arrangement or sequence of symbols that the programmer chooses to adopt to perform a particular data processing task (just as the particular arrangement or sequence of words or symbols constitutes the "expression" of any literary work). Cf. CONTU Final Report 15 ("a program is created, as are most copyrightable works, by placing

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<sup>13</sup> The petition (at 14-15) also challenges the citation by the court of appeals [714 F.2d at 1252] of *Mazer v. Stein*, 347 U.S. 201, 218 (1954). But the petition fails to note in that regard that the court of appeals cited the *Mazer* case solely to refute Franklin's overblown argument (at 14-15) that "utilitarian use" "precludes copyrightability" [714 F.2d at 1251-52]. Contrary to Franklin's argument, the court of appeals was correct in citing the *Mazer* case against the limitations on copyright law contended for by Franklin. Accord CONTU Final Report 21 ("[t]hat the words of a program are used ultimately in the implementation of a process should in no way affect their copyrightability").



symbols in a medium"). Here, each work in suit consists of a complicated written arrangement of sequenced lines of code or instructions [see Appendix "B"] designed to accomplish a given data processing task in a particular manner [see 714 F.2d at 1244 n.4 (describing the tasks accomplished by each work in suit)]. They represent highly creative endeavors of Apple programmers and were created at great expense. [CR 45, Ex. P-4; 714 F.2d at 1245]

The petition (at 18-19) criticizes the Third Circuit for allegedly failing "to provide guidelines for the application of the [idea/expression] merger doctrine" to operating system programs.<sup>14</sup> But, in fact, the court did state the appropriate guideline in terms "no different than that [applied to] determine whether the expression and idea have merged" in other works and contexts. [714 F.2d at 1253] Adopting the focus in earlier cases "on whether the idea is capable of various modes of expression," the Third Circuit well explained that, "[i]f other programs can be written or created which perform the same function as an Apple's operating system program, then that program is an expression of the idea and hence copyrightable." [*Id.*] Indeed, contrary to the petition's contention (at 19) that the court of appeals engaged in only a "metaphysical analysis," the court provided a concrete illustration of the "merger doctrine" in the context of one of the works in suit (Applesoft, described in 714 F.2d at 1244 n.4, 1251). [*Id.* at 1253]<sup>15</sup> There is no basis

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<sup>14</sup> The doctrine enunciates an exception to copyright protection "when there is but a limited number of ways to express a given idea." CONTU Final Report 20. "In the computer context," when a particular sequence of instructions is the "only and essential means of accomplishing a given task," that sequence may be used by others. *Id.*

<sup>15</sup> The opinion of the court of appeals explained [714 F.2d at 1253]:

"The idea of one of the operating system programs is, for example, how to translate source code into object code. If other methods of expressing that idea are not foreclosed as a practical matter, then there is no merger."



whatever for the petition's assertion (at 19) that the standard enunciated in the opinion of the court of appeals will "confuse the lower courts."

**III. THE PRESUMPTION OF IRREPARABLE HARM UNDER COPYRIGHT LAW IS UNIFORMLY AND ROUTINELY APPLIED AND NEEDS NO "CLARIFICATION." IN ANY EVENT, THE PETITION IGNORES THAT THE COURT OF APPEALS DETERMINED THAT APPLE HAD ALSO ESTABLISHED ACTUAL IRREPARABLE HARM.**

Contrary to the petition's statement (at 23), the court of appeals did not "eliminate" irreparable harm as a prerequisite for the issuance of a preliminary injunction. Rather, the court merely endorsed "the prevailing view that a showing of a prima facie case of copyright infringement or reasonable likelihood of success on the merits raises a presumption of irreparable harm." [714 F.2d at 1254] This presumption is firmly established and has been uniformly applied for years.<sup>16</sup>

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<sup>16</sup> The following cases illustrate the pervasive acceptance of the presumption (and no circuit appears to be to the contrary):

*First Circuit: New Boston Television, Inc. v. Entertainment Sports Programming Network, Inc.*, 1981-83 Copyright L. Dec. ¶ 25,293 (D. Mass. 1981);

*Second Circuit: Wainwright Securities Inc. v. Wall Street Transcript Corp.*, 558 F.2d 91 (2d Cir. 1977), cert. denied, 434 U.S. 1014 (1978); *Robert Stigwood Group Ltd. v. Sperber*, 457 F.2d 50 (2d Cir. 1972); *Rice v. American Program Bureau*, 446 F.2d 685 (2d Cir. 1971); *Mister B Textiles Inc. v. Woodcrest Fabrics, Inc.*, 523 F. Supp. 21 (S.D.N.Y. 1981); *Encyclopaedia Britannica Educational Corp. v. Crooks*, 447 F. Supp. 243 (W.D.N.Y. 1978);

*Third Circuit: Klitzner Industries v. H.K. James & Co.*, 535 F. Supp. 1249 (E.D. Pa. 1982); *Custom Decor, Inc. v. Nautical Crafts Inc.*, 502 F. Supp. 154 (E.D. Pa. 1980);

*Fifth Circuit: Universal City Studios, Inc. v. Kamar Industries*, 1981-83 Copyright L. Dec. ¶ 25,452 (S.D. Tex. 1982); *Neal v. Glickman*, 391 F. Supp. 1088 (N.D. Tex. 1975);

In any event, the Third Circuit also based its reversal on the showing of *actual* irreparable harm made by Apple, declaring:

"[E]ven without the presumption of irreparable harm generally applied in copyright infringement cases, the jeopardy to Apple's investment and competitive position caused by Franklin's wholesale copying of many of its key operating programs would satisfy the requirement of irreparable harm needed to support a preliminary injunction."

[714 F.2d at 1254] This alternative ground, unchallenged by the petition, renders it unnecessary to reach any presumption issue, even were there (and there is not) some independent reason to do so.

*Sixth Circuit: National Educational Media, Inc. v. Elias Brothers Restaurants, Inc.*, 207 U.S.P.Q. 884 (E.D. Mich. 1980); *Dealer Advertising Development, Inc. v. Barbara Allan Financial Advertising, Inc.*, 197 U.S.P.Q. 611 (W.D. Mich. 1977);

*Seventh Circuit: Atari, Inc. v. North American Philips Consumer Electronics Corp.*, 672 F.2d 607 (7th Cir. 1982), cert. denied, 103 S. Ct. 176 (1983);

*Eighth Circuit: Midway Mfg. Co. v. Dirkschneider*, 543 F. Supp. 466 (D. Neb. 1981); *Northwestern Bell Telephone Co. v. Bedco, Inc.*, 501 F. Supp. 299 (D. Minn. 1980);

*Ninth Circuit: Universal City Studios, Inc. v. J.A.R. Sales, Inc.*, 216 U.S.P.Q. 679 (C.D. Cal. 1982); *United Feature Syndicate, Inc. v. Cornwell Industries*, 2 Copyright L. Rep. (CCH) (Copyright L. Dec.) ¶ 25,509 (C.D. Cal. Dec. 9, 1981); *United Feature Syndicate, Inc. v. Powell*, 2 Copyright L. Rep. (CCH) (Copyright L. Dec.) ¶ 25,508 (C.D. Cal. Mar. 27, 1981);

*Eleventh Circuit: Original Appalachian Artworks, Inc. v. Cradle Creations, Inc.*, 1981-83 Copyright L. Dec. ¶ 25,387 (N.D. Ga. 1982); *O'Neill Developments, Inc. v. Galen Kilburn, Inc.*, 524 F. Supp. 710 (N.D. Ga. 1981); *Habersham Plantation Corp. v. Country Concepts*, 209 U.S.P.Q. 711 (N.D. Ga. 1980); *Metro-Goldwyn-Mayer, Inc. v. Showcase Atlanta Cooperative Productions, Inc.*, 479 F. Supp. 351 (N.D. Ga. 1979).

**Conclusion**

For the foregoing reasons, Franklin's petition for a writ of certiorari should be denied.

November 23, 1983.

Respectfully submitted,

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## APPENDICES

## APPENDIX "A"

# Glossary\*

<i>Term</i>	<i>Definition</i>
<b>SOFTWARE</b> (Computer Programs)	Sequenced instructions for the operation of a computer written in a computer language and encoded on various media for transmittal to, and use by, the computer (acting in response to electrical signals).
<b>Operating System Programs</b>	Programs for common data processing functions and routines (including language processor and utility programs).
• <b>Language Processors</b>	Programs which effect the translation of instructions written in higher level code into object code. Such a program is frequently called an ASSEMBLER or COMPILER or an INTERPRETER (which translates one instruction at a time).
• <b>Utilities</b>	Programs for performance of such common data processing tasks as copying data from card to disk media, the loading of programs or the sorting of data.
<b>Application Programs</b>	Programs designed to accomplish a user's specific data processing task (e.g., calculate a payroll).

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\* See, e.g., P. Calingaert, *Operating System Elements* (1982); L. Frenzel, *Getting Acquainted with Microcomputers* (1978); G. Shelly & T. Cashman, *Introduction to Computers and Data Processing* (1980); Note, *Copyright Protection of Computer Program Object Code*, 96 Harv. L. Rev. 1723 (1983).

<i>Term</i>	<i>Definition</i>
<b>COMPUTER LANGUAGES</b>	Written symbols (code) used for the writing and representation of instructions to a computer.
<b>Source Code</b>	The code in which a program is originally written, usually (for the sake of convenience) a higher level language or assembly language.
• <b>Higher Level Language</b>	Code in which a single statement (e.g., "WRITE") represents an entire series of instructions to the computer. (Some commonly used higher level languages are BASIC, FORTRAN and COBOL).
• <b>Assembly Language</b>	Code with alphanumeric symbols (letters and numbers) in which the statements (e.g., "LSR") represent in symbolic form the instruction set of a computer (the instructions which the computer is capable of executing).
<b>Object Code</b>	Code written in binary (strings of 0's or 1's) or hexadecimal (numbers with some letters) language representing the on/off signals used by the computer to produce the desired data processing result.
<b>MEDIA</b>	The media on which programs are encoded for transmittal to, and use by, computers, including paper tapes; punched cards; magnetic tape; disks or diskettes (floppy disks); and silicon chips (semiconductor memories), including ROMs (read-only-memories), PROMs (programmable-read-only-memories) and RAMs (read-write or random-access-memories).

# APPENDIX "B"

## Autostart ROM

(Excerpt from the Program)

Copyright Apple Computer, Inc. 1977, 1979

FB00 FFFF

```

FB00 4A 08 20 47 FB 28 A9 0F
FB08 90 02 69 E0 B5 2E B1 26
FB10 45 30 25 2E 51 26 91 26
FB18 60 20 00 FB C4 2C B0 11
FB20 C8 20 0E FB 90 F6 69 01
FB28 4B 20 00 FB 68 C5 2D 90
FB30 F5 60 A0 2F DC 02 A0 27
FB38 B4 2D A0 27 A9 00 B5 30
FB40 20 2E FB BB 10 F6 60 4E
FB48 44 2F 03 09 04 B5 27 6B
FB50 29 1B 90 C2 69 7F B5 26
FB58 04 04 05 26 B5 26 60 A5
FB60 30 1B 69 C3 29 0F B5 30
FB68 04 04 04 04 05 30 B5 30
FB70 60 4A 0B 20 47 FB B1 26
FB78 2B 90 04 4A 4A 4A 4A 2F
FB80 0F 60 A6 3A A4 3E 20 96
FB88 FD 2D 4B F9 A1 3A AB 4A
FB90 90 09 6A DC 10 C9 A2 FC
FB98 00 2F B7 4A AA BC 62 FF
FBA0 20 7F FB DC 04 AC B0 A9
FBA8 00 4A BC A6 F9 B5 2E 29
FBB0 C3 B5 2F 9B 2F BF AA 9B
FBB8 AC C3 EC BA FC CB 4A 91
FBCC 0B 4A 4A C9 20 B5 DC FA
FBC8 CB B9 DC F2 60 FF FF FF
FBCC 20 B2 FB 4B B1 3A 20 DA
FBDB FC AC C1 2F 7F FB C4 2F
FBFC CB 57 00 00 00 00 00 00

```

Omitted

Omitted

```

FAE- 00 41 EB 74 84 00 02
FFB0 CB 49 BC C9 0A 90 D3 69
FFB8 BB C9 FA BC CD 60 A9 FE
FFC0 4B B5 E3 FF 4B A5 31 AC
FFC8 00 B4 31 60 BC B2 BE B2
FFD0 EF C4 B2 A9 BB A6 A4 06
FFD8 95 07 C2 C5 FC 00 EB 93
FDEC A7 C6 99 B2 C9 BE C1 35
FFEB BC C4 96 AF 17 17 2B 1F
FFFC B3 7F 5C CC B5 FC 17 17
FFFF F5 03 FB C3 62 FA 40 FA

```

From CR 45, Exhibit P-5A

# Applesoft (and Floating Point BASIC) (Excerpt from the Program)

Copyright Apple Computer, Inc. 1978

•  
JCALL-151

•E0C0 F7FF

E000	4C	2B	F1	4C	3C	D4	00	20
E008-	B1	00	90	05	20	7D	E0	90
E010-	0B	AA	20	B1	00	90	FB	20
E018-	7D	E0	B0	F6	C9	24	D0	06
E020-	A9	FF	B5	11	D0	10	C9	25
E028-	D0	13	A5	14	30	C6	A9	80
E030-	B5	12	05	B1	B5	B1	BA	09
E038-	80	AA	20	31	00	B6	B2	38
E040	05	14	E9	2B	D0	03	4C	1E
E048-	E1	24	14	30	02	70	F7	A9
E050-	00	B5	14	A5	69	A6	6A	A0
E058-	00	B6	9C	B5	9B	E4	6C	D0
E060-	04	C5	6B	F0	22	A5	B1	D1
E068-	93	D0	0B	A5	B2	C8	D1	9B
E070-	F0	6C	B8	1B	A5	9B	69	07
E078-	90	E1	EB	D0	DC	C9	41	90
E080-	05	E9	5B	3B	E9	A5	60	6B
E088-	4B	C9	D7	D0	0F	BA	3D	02
E090-	01	C9	DE	D0	07	A9	9A	A0
E098-	E0	60	00	00	A5	6B	A4	6C
E0A0-	B5	00	00	00	A5	6D	A4	6C

Omitted

Omitted

F7C8-	3F	A0	00	B5	00	51	B5	
F7D0-	A5	94	B5	3C	A5	95	B5	3D
F7D8-	60	A9	40	B5	14	20	E3	DF
F7E0-	A9	00	B5	14	4C	F0	D8	20
F7E8-	FB	E6	CA	BA	C9	2B	90	0A
F7F0-	E9	2B	4B	20	FB	DA	6B	4C
F7FB-	EC	F7	B5	24	60	CB	D2	D7

From CR 45, Exhibit P-6A



**DOS 3.3**

(Excerpt from the Program)

Copyright Apple Computer, Inc. 1980

"

3FF0- AE 9B 33 9A 20 16 23 1-

\*1B00 3FFF

1B00- 4C B4 1D A9 DF B5 41 A2

1B0B- 00 B6 40 40 00 A1 40 E5

10- 26 9B 45 2C B5 26 9B 1-

B1B- 40 B1 40 C5 26 D0 05 C5

1B20- D0 EF F0 04 C6 41 D0 E3

1B2B- A5 41 29 DF B5 45 B6 42

1B30- A1 42 4B B5 26 9B 45 2C

1B3B- B5 26 9B 41 40 B1 42 C5

1B40- 26 D0 09 C5 D0 EF A4 42

1B4B- 69 4C 51 1B 68 B1 42 A4

1B50- 41 CB BC 79 1C 3B 9B E3

1B5B- 7A 1C 3D 7B 1C 3B ED 7C

1B60- 1C F0 9D BD 7D 1C AD 7C

1B6B- 1C BD 0D 1D A9 1D BD 4C

1B70- 37 A9 B4 BD 4B 37 A2 0C

1B7B- B6 40 BD 25 1C A8 BD 24

1B80- 1C B5 41 4C 93 1B 1B B1

1B8B- 40 6D 7B 1C 91 40 CB D0

1B90- 02 E6 41 C5 D0 02 E6 41

1B9B- A5 A4 1C 90 E3 41

1BA0- 0E 0C 04 02 0F

3F0B- 20 93 F0 AD B1 C0 AD B1

3F0D- C0 A9 00 BD 00 E0 4C 44

3F0B- 37 00 00 00 BD 63 2A BD

3FE0- 70 2A BD 71 2A 60 20 5B

3FEB- 27 BC B7 2A 60 20 7E 2E

3FF0- AE 9B 33 9A 20 16 23 BA

3FFB- BE 9B 33 A9 09 4C B5 33

\* 0E 0C 04 02 0F

3F0B- 20 93 F0 AD B1 C0 AD B1

3F0D- C0 A9 00 BD 00 E0 4C 44

3F0B- 37 00 00 00 BD 63 2A BD

3FE0- 70 2A BD 71 2A 60 20 5B

3FEB- 27 BC B7 2A 60 20 7E 2E

3FF0- AE 9B 33 9A 20 16 23 BA

3FFB- BE 9B 33 A9 09 4C B5 33

\* 0E 0C 04 02 0F

**Master Create**

(Excerpt from the Program)

Copyright Apple Computer, Inc. 1979

+200. EFF

```

0800- A9 CC 20 05 09 20 23 09
0808- A9 C0 20 E3 08 20 B9 09
0810- 90 1B A9 08 20 05 09 AD
0818- 00 1C 09 40 F0 0F 4C 46
0820- 08 EA EA EA EA A9 07 20
0828- E3 08 40 B5 08 AD 06 1E
0830- 4D 0D 1E 49 6E D0 0F AD
0838- BE 34 49 04 D0 08 BD 66
0840- 2B BD EB 13 F0 08 A9 08
0848- 20 E3 08 40 B5 08 A9 0A
0850- 20 05 09 A9 01 20 E3 08
0858- 20 6A FD 20 4B 09 B0 EE
0860- 40 1D B9 31 0E 99 75 2B
0868- BB 10 F7 A9 02 20 05 09
0870- A9 02 20 E3 08 20 0D 09
0878- A9 03 20 E3 08 20 39 09
0880- D0 C0 20 B5 09 90 4A A9
0888- 04 20 05 09 AD 71 0E 0A
0890- D0 03 0A 90 04 A9 09 D0
0898- 08 A9 0A 20 E3 08 A9 05
0900- 20 E3 08 20 39 09 20 08
0908- A9 0A 20 09 4C 6B 20

```

Omitted

Omitted

```

0908- FF FF FF FF FF FF FF FF
0910- FF FF FF FF FF FF FF FF
0918- FF FF FF FF FF FF FF FF
0920- FF FF FF FF FF FF FF FF
0928- FF FF FF FF FF FF FF FF
0930- FF FF FF FF FF FF FF FF
0938- FF FF FF FF FF FF FF FF
0940- FF FF FF FF FF FF FF FF

```

# Copy (Excerpt from the Program)

Copyright Apple Computer, Inc. 1980

2

LIST

```

10 TEXT
20 REM *****
30 REM *          DISK COPY          *
40 REM *    COPYRIGHT 1980 BY      *
50 REM *    APPLE COMPUTER INC.    *
60 REM *                               *
70 REM *****
80 PRINT "LOAD COPY OBJO": REM AS2
   CO
100 DIM DK$(20)
110 DIM I$(40): CALL -936: PRINT
   "  APPLE DISKETTE DUPLICATION P
   ROGRAM": PRINT PRINT
120 CALL 704 CS= PEEK (718)/16
130 POKE 715: PEEK (205)+1: REM BUFS
   TART
140 POKE 716: PEEK (203)-1: REM BUFE
   ND
150 I$=" ORIGINAL" N=CS A=718 GOSUB
   430 ME=N N= PEEK (720): GOSUB
   440 MD=N
160 "
   N=77
   Omitted
   Omitted
480 IF MS485 THEN RETURN
490 IF MD480 THEN RETURN
500 CALL -936: IF DK$(1,1)="E" THEN
   PRINT
510 PRINT "INSERT ", DK$, " DISK AND P
   RESS RETURN": INPUT DK$
520 CALL -936
530 RETURN

```

**Copy A**

(Excerpt from the Program)

Copyright Apple Computer, Inc. 1980

JLIST

```

0  TEXT
10  REM *****
20  REM *          DISK COPY          *
30  REM *    COPYRIGHT 1980 BY    *
40  REM *  APPLE COMPUTER INC  *
50  REM *                               *
60  REM *****
70  PRINT "LOAD COPY DEJO": REM
    A$200
80  HOME PRINT "  APPLE DISKET
    TE DUPLICATION PROGRAM": PRINT
    : PRINT
90  CALL 704 CS = PEEK (718) / 1
    6
100  POKE 715, PEEK (110) + 1: REM
    DUFSTART
110  POKE 716, PEEK (112) - 1: REM
    DUFEND
120  IS = " ORIGIN " N = CS A = 7
    12 = MS = A
    Omitted
    Omitted
    DE
    FULT = ", PEEK (41)
    + 256 + PEEK (40) + 14), 96
    RETURN
360  IF MS < 0 SS THEN RETURN
370  IF MD < 0 SD THEN RETURN
375  HOME : IF LEFT$ (DK$, 1) = "
    D" THEN PRINT
380  PRINT "INSERT ", DK$, " DISK A
    ND PRESS RETURN": INPUT " "
    : DK$
385  CALL - 935
390  RETURN

```

From CR 45, Exhibit P-10A

**Copy OBJO**

(Excerpt from the Program)

Copyright Apple Computer, Inc. 1980

+200 90B

```

0800 - 4C D7 02 4C F7 02 4C 17
0802 - 03 D0 CB B9 A0 B0 A2 D3
0810 - C9 B1 A0 A5 C4 02 01 20
0818 - A3 03 A2 01 A9 FF 9D D1
0820 - 02 9D D3 02 CA 10 F7 A0
0828 - 01 B1 3C 8D CE 02 C8 B1
0830 - 3C 8D D0 02 4C 34 03 20
0838 - A3 03 A2 01 BD D1 02 30
0840 - 03 C9 23 90 04 A9 01 D0
0848 - 28 20 28 03 B0 13 A0 CE
0850 - 3C 8D CA 02 90 0E 20
0858 - A3 03 A2 00 20 38 03 90
0860 - 04 A9 02 D0 00 DD CD 02
0868 - B5 0F BD CF 02 B5 10 A9
0870 - 00 8D C9 02 20 BC 03 60
0878 - B5 06 03 AC CB 02 B8 80
0880 - 04 03 A3 00 A0 03 91 30
0888 - B5 04 03 10 CA 03 CD 00
0890 - 02 70 28 B3 B3 02 10 11
0898 - 02 01 02 20 11 02 C9 23
0900 - 00 00 00 00 00 0F 9D D3

```

Omitted

Omitted

```

0908 - 00 00 00 00 00 00 00 00
0910 - 00 00 00 00 00 00 00 00
0918 - 00 00 00 00 00 00 00 00
0920 - 00 00 00 00 00 00 00 00
0928 - 00 00 00 00 00 00 00 00
0930 - 00 00 00 00 00 00 00 00
0938 - 00 00 00 00 00 00 00 00
0940 - 00 00 00 00 00 00 00 00
0948 - 00 00 00 00 00 00 00 00
0950 - 00 00 00 00 00 00 00 00
0958 - 00 00 00 00 00 00 00 00
0960 - 00 00 00 00 00 00 00 00
0968 - 00 00 00 00 00 00 00 00
0970 - 00 00 00 00 00 00 00 00
0978 - 00 00 00 00 00 00 00 00
0980 - 00 00 00 00 00 00 00 00
0988 - 00 00 00 00 00 00 00 00
0990 - 00 00 00 00 00 00 00 00
0998 - 00 00 00 00 00 00 00 00

```

# Apple Integer BASIC (Excerpt from the Program)

Copyright Apple Computer, Inc. 1977

CODE			
D000-	A9 20	LDA	#S20
D002-	8D 26 03	STA	\$0326
D005-	AD 57 C0	LDA	\$C057
D008-	AD 53 C0	LDA	\$C053
D00B-	AD 50 C0	LDA	\$C050
D00E-	A9 00	LDA	#S00
D010-	85 1C	STA	\$1C
D012-	AD 26 03	LDA	\$0326
D015-	85 1B	STA	\$1B
D017-	A0 00	LDY	#S00
D019-	84 1A	STY	\$1A
D01B-	A5 1C	LDA	\$1C
D01D-	91 1A	STA	(\$1A), Y
D01F-	20 A2 D0	JSR	\$D0A2
D022-	CB	INY	
D023-	D0 F6	BNE	\$D01B
D025-	E6 1B	INC	\$1B
D027-	A5 1B	LDA	\$1B
D029-	29 1F	AND	#\$1F
D02B-	D0 EE	BNE	\$D01B
D02D-	60	RTS	
D02E-	8D 22 03	STA	\$0322
D031-	8E 20 03	STX	\$0320
D034-	8C 21 03	STY	\$0321
D037-	4B	PHA	
D03B-		AND	#\$C0
	Omitted		
F7F7-	85 1E		\$1E
F7F9-	60	RTS	
F7FA-	4C C7 F6	JMP	\$F6C7
		Omitted	

DATA:

F7FD: F6 FF FF v

From CR 45, Exhibit P-12A

**Boot 13**

(Excerpt from the Program)

Copyright Apple Computer, Inc. 1979

A800 10F0

```

0810- 20 E3 03 84 00 B5 01 A0
0813- 01 B1 00 8D 90 17 C8 B1
0816- 00 BD 91 17 20 58 FC A0
0819- FF C8 B9 96 17 08 09 B0
0820- 20 ED FD 28 10 F3 A9 BF
0823- B5 33 20 6A FD AD 00 02
0826- C4 BD F0 CF C9 B1 90 DC
0829- C9 B8 20 D3 0A 0A 0A 0A
0832- BD B2 17 A9 17 A0 B1 20
0835- 00 1D B0 F7 AD FE 16 BD
0838- BA 17 B5 13 E6 13 AD FF
0841- 16 4A 4A 4A B5 10 A9 17
0844- A0 B1 20 00 1D D0 F7 EE
0847- BA 17 EE B6 17 AD B6 17
0850- C5 10 F0 EA 90 EB AD B2
0853- 17 AA A9 00 B5 12 6C 12
0856- 00 01 60 01 00 00 00 92
0859- 17 00 16 00 00 01 00 00
0862- C6 FD 00 01 EF D8 CD CD
0865- 20 20 20 00 20 20 20
0868- 20 20 20 00 20 20 20

```

Omitted

Omitted

```

1000- 39 1E 40 00 4B 4A 05
1003- 4A 9D BD 00 BD 3C 00 68
1006- 01 00 09 1A BA 4B 6B EA
1009- 9D BD 00 BD 3C 00 60 00
1012- 00 00 00 00 00 00 00 00
1015- 00 00 00 00 00 00 00 00
1018- 00 00 00 00 00 00 00 00
1021- 4B

```

Copyright Apple Computer, Inc. 1978

From CR 45, Exhibit P-14A



**Hello**

(Excerpt from the Program)

Copyright Apple Computer, Inc. 1980

## LIST

```

10 REM  -- DOS 3.3 HELLO
20 REM
30 TEXT  PRINT
40 HOME
50 PRINT "DOS VERSION 3.3
      08/25/80"
60 PRINT : PRINT "APPLE II PLUS
      OR ROMCARD  SYSTEM MASTER"
70 REM
80 REM  --POKE LANGUAGE CARD FIN
      DER
90 POKE 768,0: POKE 769,173: POKE
      770,0: POKE 771,224: POKE 77
      2,72: POKE 773,173: POKE 774
      ,129: POKE 775,192: POKE 776
      ,104
95 POKE 777,72: POKE 778,205: POKE
      779,0: POKE 780,224: POKE 78
      1,208: POKE 782,35: POKE 783
      ,173: POKE 784,131: POKE 785
      ,104
      Omitted
      Omitted
100 REM  --NO C
      D
120 REM
140 IF PEEK (768) = 0 THEN  END
160 PRINT : PRINT "  LANGUAGE C
      ARD CANNOT BE RELOADED" PRINT
      UNTIL THE SYSTEM IS REBO
      OTED ...
180 END

```

From CR 45, Exhibit P-15A

# Apple 13-Sector Boot ROM (Excerpt from the Program)

Copyright Apple Computer, Inc. 1978

```

C600- A2 20 A0 C0 A9 03 85 3C
C608- 18 E8 9B 24 3C F0 F5 26
C610- 3C 90 FB C0 D5 F0 ED CA
C618- BA 97 00 08 D0 E6 20 58
C620- FF DA BD 00 01 48 0A 0A
C628- 0A 0A 85 23 AA A9 D0 48
C630- DD EE C0 BD 8C C0 DD BA
C638- C0 3D B9 C0 A0 50 BD 80
C640- C0 9B 29 03 0A 05 2D AA
C648- 3D B1 C0 A9 56 20 A8 FC
C650- 6B 10 EB A9 03 85 27 A9
C658- C0 65 26 85 3D 18 08 BD
C660- 8C C0 10 FB 49 D5 D0 F7
C668- 3D 8C C0 10 FB C9 AA D0
C670- F3 EA BD 8C C0 10 FB C9
C678- 35 F0 09 2B 90 DF 49 AD
C680- F0 1F D0 D9 A0 03 84 2A
C688- 3D 8C C0 10 FB 2A 85 3C
C690- DD 8C C0 10 FB 25 3C 88
C698- 7  D D0 8F

```

Omitted

Omitted

```

C6A0- 3C 91 26 59 00 08 D0 8D
C6A8- C0 10 FB 59 00 08 D0 8D
C6B0- 60 AB A2 C0 39 00 08 4A
C6B8- 3E C0 C0 4A 3E 97 03 85
C6C0- 3C B1 26 0A 0A 0A 05 3C
C6C8- 91 26 08 EB E0 33 D0 E4
C6D0- C6 2A D0 3E C0 0C 03 D0
C6D8- C3 4C 01 03 4C 2D FF FF

```

# Apple 16-Sector Boot ROM (Excerpt from the Program)

Copyright Apple Computer, Inc. 1979

\*C6C0, C6FF

```

C600- A2 20 A0 00 A2 03 B6 3C
C608- 8A 0A 24 3C F0 10 05 3C
C610- 49 FF 29 7E D0 0B 4A D0
C618- F3 98 9D 56 03 CB EB 10
C620- E5 20 58 FF DA BD 00 01
C628- 0A 0A 0A 0A 85 2B AA BD
C630- BE C0 BD 8C C0 BD 8A C0
C638- 3D 89 C0 A0 50 BD 80 C0
C640- 98 29 03 0A 05 2D AA BD
C648- B1 C0 A9 56 20 A8 FC 88
C650- 10 EB 85 26 B5 3D B5 41
C658- A9 0B 85 27 1B 0B BD 8C
C660- C0 10 FB 49 D5 D0 F7 BD
C668- BC C0 10 FB C9 AA D0 F3
C670- EA BD 8C C0 10 FB C9 96
C678- F0 09 2B 90 DF 49 AD F0
C680- 25 D0 D9 A0 03 B5 40 BD
C688- 8C C0 10 FB 2A B5 3C BD
C690- 8C C0 10 FB 2A B5 3C BD
C698- 8C C0 10 FB 2A B5 3C BD

```

Omitted

Omitted

```

C6A0- FB 59 D6 00 8C C0 10 F3
C6B8- C3 D0 EF 00 8C C0 10 F3
C6D0- 59 D6 02 D0 27 A0 C0 A2
C6DB- 55 CA 30 F3 B1 26 5E 00
C6EC- 03 2A 5E 00 03 2A 91 25
C6E8- C8 D0 EE E6 27 E6 3D A5
C6F0- 3D CD 00 CB A6 2B 90 D3
C6FB- 4C 01 CB 00 00 00 00 00

```

# The Gavel Comes Down on Computer Copycats



Tom Brown

New rulings thrill the 'piracy' foes. But has copyright law been blurred?

By DAVID E. SANGER

**W**HEN Apple Computer won a major software copyright suit several weeks ago against a manufacturer of Apple-look-alike computers, relief swept through the industry.

"There is a tremendous amount of piracy going on," said Nicholas Franken, a patent attorney for Bonywell Inc., "so it was important to the industry that Apple win."

If achieving a clear victory was important to industry pioneers, however, avoiding another court defeat was crucial. Had the decision gone the other way, "the result would have been chaos," said Jack Brown, a

## Software's Day in Court

Below is a summary of recent major court rulings that affect the copyright protections of personal computer software.

### Apple v. Franklin

In perhaps the most significant computer copyright decision yet, the Third Circuit court of appeals ruled that operating systems—the programs that control the flow of information through a computer—can be copyrighted. The court also said that even programs imbedded in a computer's hardware, etched on a silicon chip, can be protected by copyright. Franklin, which makes a machine very similar to the Apple IIe, is appealing the decision to the Supreme Court.

### Artis v. Midway

The Supreme Court refused to hear Artis International's arguments that the "audiovisual works"—the images and sounds—of an electronic video game may not be copyrighted. That left standing a circuit court ruling that both the audiovisual works and the computer chips that generate them are copyrightable. The case grew out of a suit filed by Midway Manufacturing, which owns the copyright on Pac-Man, to stop Artis from distributing a kit that speeds up the play of the game.

### Nat'l Conference of Bar Examiners v. Multistate Legal Studies

The Supreme Court refused to hear an appeal from a last preparation service challenging Copyright Office rules that deny the public access to some copyrighted works. While computer and software manufacturers were not directly involved, they are fearful that competitors may be able to use Copyright Office records to reproduce proprietary programs. Critics say that copyrights were designed to aid in the dissemination of information, and the office should not be used to aid companies in maintaining trade secrets.

leading expert on computer law who represented Apple in the case.

In fact, Apple's victory over the Franklin Computer Corporation in the United States Court of Appeals for the Third Circuit in Philadelphia came at a time when the industry was awash in doubts over whether the nation's legal system protects the technology that sparked the personal computer revolution.

But a small flurry of decisions in the past few months has laid many of those worries to rest. At a pace that has surprised even the most optimistic in the industry, several Federal courts have displayed a willingness to push the frontiers of copyright law well beyond traditional boundaries. In copyright battles over the innards of an Apple and the maze-like paths of a Pac-Man machine, they have ruled that all computer programs — even those that are embedded in a computer's circuitry — are "literary works" worthy of copyright protection.

At stake, both for computer giants like the International Business Machines Corporation and weekend "hackers" trying to tap out the Great American Computer Program in their basements, are billions of dollars in sales and millions in licensing rights.

Already, computer "piracy" is a major problem. Thousands of inexpensive "knockoffs" of popular personal computers and crucial computer chips, most Asian-made, flood into the country each month. At home, groups of computer enthusiasts and professional "pirates" freely trade in illegal copies of programs. And technical solutions have failed: No one has found an efficient way to allow amateur computer users to make legitimate back-up copies for their own use while effectively fighting the "pirates."

Manufacturers have only the courts to turn to, and for a time many feared that technology had raced ahead of the law's ability to protect it. But in light of the recent spate of rulings, many companies now believe they have the legal tools they need to drive

"pirates" off the shelves.

"There is no question that these cases constitute a trend," said Gerry J. Elman, an attorney and computer law expert. "We are ending up with the economically desirable result: The people who invest in developing new technology can reap the benefits of it. Whether we are doing it at the expense of creating good law is still an open question."

Indeed, some legal scholars say that many of the court decisions are doing substantial damage to the traditional distinctions between patents, which give inventors a limited-term monopoly on "utilitarian articles" and "novel inventions," and copyrights, which protect the expression of an idea.

**F**OR example, while a few scholars and attorneys express sympathy for Franklin Computer, which markets a machine that is a dead ringer for the Apple IIe personal computer, they say that Franklin is correct in contending that copyrights are being used by manufacturers in an effort to establish monopolies on the sale of their equipment.

And there is increased concern that manufacturers are trying to copyright their most lucrative programs by "publishing" them in a technical sense, while still keeping the text of those programs secret. "We should not transform the copyright office into a trade secret registry," said Ralph S. Brown, a professor emeritus at the Yale Law School.

What prompted all this debate has been the technological innovation that has eroded many of the traditional distinctions between computer hardware and the computer programs that instruct the machines what to do.

At one time, the difference seemed simple. The computer — including the chips within it — was a machine, eligible for patent protection if it passed muster as sufficiently "novel." And a program was a written work much like a book, eligible for immediate copyright protection

as the expression of an idea or a set of instructions.

But things quickly got complicated. Obtaining a patent can take three to five years, often longer than the useful life of a generation of computer chips, so "the patent system simply could not keep up with the pace of this industry," Professor Brown said.

And it was not immediately clear that the design of chips, or some special types of programs, could be copyrighted, either. Many programs for personal computers are stored inside the machine, on chips known as ROM's, or "read only memory" chips, because the machine "reads" information from them. The program is literally engraved onto the chip's silicon surface. For the courts, this raised another question: At what point does the program become part of the machine itself, making it a "utilitarian object" that must be patented, not copyrighted?

Further confusing the issues, many of those programs are "operating systems," which give the computer instructions about how it manipulates information — where to route it and what to do with it. Is a program that can be "read" only by a machine also part of the hardware, ineligible for copyright protection?

Thus the issue for the courts was fairly basic: If a program can be copyrighted in its raw form, written on paper, can it be copyrighted when it has been merged with the hardware?

**F**OR a while the answer seemed to be no. When Apple first went to court in an effort to get Franklin's look-alike computer off the shelves, Federal District Judge Clarence C. Newcomer refused to go along. Agreeing with Franklin's attorneys, he said that operating systems are not a "language of description" because they are understandable primarily to machines, not people, and therefore are not eligible for copyright. Moreover, he ruled that software embedded in Apple's computer chips were an "essential element of the machine." He denied the

injunction.

In less than a year, however, that thinking has been almost completely reversed. The Court of Appeals for the Third Circuit, in its decision in the Apple case in August, ruled that literary works "are not confined to literature in the nature of Hemingway's 'For Whom the Bell Tolls.'" And it makes no difference, the court said, whether the programs are burned into the microchips, inseparable from the computer's circuitry.

The decision was applauded by major manufacturers, who thought that without the ruling they would be undersold by machines that were copies of their own designs. "It makes sense that we are protecting the information, regardless of how it is stored," said Joseph B. Taphorn, a patent attorney for the I.B.M. "The Ten Commandments shouldn't be any less protected just because they were engraved on stone."

But the decision also should benefit individuals seeking to market their own programs. While the marketing of software has shifted quickly from a cottage industry to a corporate one, the actual writing of programs is still largely an individual effort. Even some of the most successful companies depend on a single product.

"For the small software companies, where much of the innovation is still taking place, protecting that one program is absolutely essential," insisted Mr. Brown, Apple's lawyer. "Without protection, they are nowhere."

Even with the recent legal victories, however, protecting a copyright takes vigorous work. Consider the case of the Bally Manufacturing Corporation, which holds rights to Pac-Man, Ms. Pac-Man, Space Invaders and Galaxion, some of the most popular games in the country. Over the past two years, according to Glenn Seidenfeld Jr., the company's general counsel, Bally has brought 65 suits against competitors selling almost exact replicas of its arcade games.

In most cases the company has prevailed, largely because the audiovis-

ual effects shown on the screen of a video game can be copyrighted, regardless of the underlying computer design. But in a case that reinforced the basic precepts of the Apple-Franklin decision, the Supreme Court said earlier this month that it would not review a circuit court ruling against Artic International Inc., which lost a suit against a Bally subsidiary. The circuit court had ruled that both the audiovisual effects and the computer chips that generate them are covered by copyright.

**A**RTIC, which lost at least two other major suits for similar infringements, has since gone out of business. Richard G. Kinney, a Chicago attorney who represented the company, said recently he believes that "it was the suits that drove them under," and that the courts have not fully considered the implications of their ruling.

"This is effectively providing an industrial copyright for all machines, and copyright is singularly inappropriate for protecting utilitarian objects," he said. "The life of a copyright is very long — much longer than a patent — and it effectively means that the companies have a long, long monopoly on these machines."

Bally and other video game manufacturers, along with their computer industry counterparts, deny that they are using the copyright rulings in an effort to stamp out makers of peripheral equipment compatible with theirs. In fact, I.B.M. has gone to some lengths to publish the technical details of its Personal Computer — although not the ROM chip that guides many of its crucial operations — so that outsiders would invest the time needed to create a whole library of software for the machine.

But some say amendments to the copyright and patent system should be enacted by Congress. "I think the answer is a limited-term protection for software that can be issued very quickly, but after some review," said Professor Brown of Yale. "Something between a copyright and a patent."

Until then, most experts expect further challenges to the concept of copyrighting software and computer chips. Some will arise from genuine disagreements over the purpose of the law, they suggest, and others will be attempts to exploit the technological achievements of others.

"The next great question will be, 'What is infringement?'" speculated Mr. Brown, Apple's lawyer. "People are going to try to rewrite programs a little bit, and then say, 'Look at this code; it really is quite different.' In reality, those will be surface changes of the most meaningless sort." ■

### **Certificate of Service**

The undersigned counsel of record for Respondent certifies that he is a member of the Bar of this Court and that, on November 22, 1983, three copies of Brief for Respondent in Opposition to Petition for a Writ of Certiorari to the United States Court of Appeals for the Third Circuit were served upon counsel for Petitioner by Express Mail, postage prepaid in Phoenix, Arizona, addressed as follows:

Bernard G. Segal, Esq.  
Schnader, Harrison, Segal & Lewis  
1600 Market Street, Suite 3600  
Philadelphia, PA 19103

/s/ Jack E. Brown